

REMARKS

This paper responds to the Final Office Action mailed July 29, 2005 and the Advisory Action mailed December 13, 2005.

Claim 10, 12, 14, 18, 31, and 32 are amended. Claim 33 is canceled without disclaimer or prejudice. As a result, claims 10-22, and 31, 32, and 34 are now pending in this application.

§112 Rejection of the Claims

Claim 35 was rejected under 35 USC § 112, second paragraph, as being indefinite for omitting essential step. Applicant respectfully traverses. As indicated in the previous amendment and response, Applicant canceled claim 35 without disclaimer or prejudice.

§102 Rejection of the Claims

Claims 31 and 33 were rejected under 35 USC § 102(b) as being anticipated by Wood et al. (U.S. 4,246,656).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Claim 31 recites, among other things, "each of the register circuits includes a number of register cells connected to a corresponding input node of the plurality of input nodes, a select circuit having input nodes connected to only a subset of the number of register cells through a number of select lines, the select circuit having an output node connected to a corresponding output node of the plurality of output nodes of the register circuits, wherein the subset of the number of register cells is less than the number of the register cells, wherein the number of select lines is less than the number of the register cells". Applicant is unable to find in Wood "each of the register circuits includes a number of register cells connected to a corresponding input node of the plurality of input nodes, a select circuit having input nodes connected to only a subset of the number of register cells through a number of select lines, the select circuit having an output node connected to a corresponding output node of the plurality of output nodes of the register circuits, wherein the subset of the number of register cells is less than the number of the register cells, wherein the number of select lines is less than the number of the register cells".

Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 31.

§103 Rejection of the Claims

Claim 10 was rejected under 35 USC § 103(a) as being unpatentable over Taya et al. (U.S. 5,778,214) in view of Yamamoto et al. (JP 06-120937).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Claim 10 recites, among other things, a plurality of register circuits, each of the register circuits being connected between a corresponding input node of the plurality of input nodes and a corresponding output node of the plurality of output nodes to receive a plurality of input bits at the corresponding input node and to provide at the corresponding output node a plurality of output bits based on the plurality of input bits, "each of the register circuits including a plurality of conductive paths connected between the corresponding input node and the corresponding output node, wherein the plurality of output bits at the corresponding output node is a copy of the plurality of input bits at the corresponding input node", and a controller to configure the register circuits based on a result from the logic function of the logic circuit "to select only one conductive path among the plurality of conductive paths of each of the register circuits" to align the plurality of output bits provided by one output node with a plurality of output bits provided by other output nodes when the plurality of input bits received at one of the input nodes are misaligned with the plurality of input bits received at the other input nodes by one or more bit time intervals.

Applicant is unable to find in Taya and Yamamoto, either individually or in the proposed combination, a plurality of register circuits, each of the register circuits being connected between a corresponding input node of the plurality of input nodes and a corresponding output node of the plurality of output nodes to receive a plurality of input bits at the corresponding input node and to provide at the corresponding output node a plurality of output bits based on the plurality of input bits, "each of the register circuits including a plurality of conductive paths connected between the corresponding input node and the corresponding output node, wherein the plurality of output bits at the corresponding output node is a copy of the plurality of input bits at the

corresponding input node", and a controller to configure the register circuits based on a result from the logic function of the logic circuit "to select only one conductive path among the plurality of conductive paths of each of the register circuits" to align the plurality of output bits provided by one output node with a plurality of output bits provided by other output nodes when the plurality of input bits received at one of the input nodes are misaligned with the plurality of input bits received at the other input nodes by one or more bit time intervals. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 10.

Claim 11 was rejected under 35 USC § 103(a) as being unpatentable over Taya et al. (U.S. 5,778,214) and Yamamoto et al. (JP 06-120937) as applied to claim 10 above, and further in view of Fukuoka (U.S. 6,467,063).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claim 11 depends from independent claim 10 and recites the things of claim 10. Applicant is unable to find in Taya, Yamamoto, and Fukuoka, either individually or in the proposed combination, the things recited in claim 11 such as those discussed above regarding claim 10 plus the additional things recited in claim 11. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 11.

Claims 12-13 were rejected under 35 USC § 103(a) as being unpatentable over Fukuoka, Taya, and Yamamoto as applied to claim 11 above, and further in view of Moriwaki et al. (U.S. 6,753,872).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claims 12 and 13 indirectly depend from claim 10 and recite the things of claim 10. Applicant is unable to find in Taya, Yamamoto, Fukuoka, and Moriwaki, either individually or in the proposed combination, the things recited in claims 12 and 13 such as those discussed above regarding claim 10, plus the additional things recited in claims 12 and 13. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 12 and 13.

Claims 14 and 16-17 were rejected under 35 USC § 103(a) as being unpatentable over Wood, in view of Yamamoto and Fukuoka.

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Claims 14 recites, among other things, "each of the register circuits further including a select circuit connected to only a subset of the number of register cells through a number of select lines, the number of select lines equaled to a maximum number of bit time intervals of misalignment of a parallel bus that connects to the integrated circuit, wherein the subset of the number of register cells is less than the number of the register cells, and wherein the number of select lines is less than the number of the register cells". Applicant is unable to find in Wood, Yamamoto, and Fukuoka, either individually or in the proposed combination, "each of the register circuits further including a select circuit connected to only a subset of the number of register cells through a number of select lines, the number of select lines equaled to a maximum number of bit time intervals of misalignment of a parallel bus that connects to the integrated circuit, wherein the subset of the number of register cells is less than the number of the register cells, and wherein the number of select lines is less than the number of the register cells".

Claim 14 further recites a detect logic to determine results from the counter and to generate a rotation number, "the rotation number being used to rotate data held in the number of register cells". Wood uses an 8-bit shift register (e.g., 8-bit shift register 52) to hold eight bits of data. Wood uses and an 8-bit multiplexer (e.g., 8-bit multiplexer 56) to select data from the 8-bit shift register by advancing the input tap position of the 8-bit multiplexer to select new data output lines from the 8-bit shift register. See Wood, column 5, lines 28-32. Thus, the eight bits of data in the 8-bit shift register of Wood are *fixed* so that each of the eight bits of data may be selected to set an appropriate delay in Wood's system. The Office Action states that Yamamoto teaches a detect logic to generate a rotation number, the rotation number being used to rotate data held in the number of the register cells. The Office Action states that it would have been obvious to one of ordinary skill in the art to modify the system taught by Wood to include the logic circuit and controller taught by Yamamoto. Applicant respectfully disagrees. As discussed above, the eight bits of data in the 8-bit shift register of Wood are *fixed* so that each of the eight bits of data may be selected to set an appropriate delay in Wood's system. In contrast, as stated in the Office Action, Yamamoto teaches a rotation number to *rotate* data held in the number of the register cells. Thus, one of ordinary skill in the art at the time of the present invention would

not be motivated to go against the teachings of Wood. That is, one of skill in the art would have no motivation to alter Wood's teaching of fixed bits in the registers by shifting or rotating bits in the registers as taught by Yamamoto. Further, since Wood teaches fixing bits in the registers to set an appropriate delay, shifting or rotating the fixed bits in the registers would destroy the function of setting the appropriate delay of Wood.

Based on the reasons presented above, Applicant submits that claim 14 is patentable over Wood in view of Yamamoto and Fukuoka. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 14.

Dependent claim 16 depends from independent claim 14 and recites the thing of claim 14. As presented above, claim 14 is patentable over Wood in view of Yamamoto and Fukuoka. Thus, claim 16 is also patentable over Wood in view of Yamamoto and Fukuoka for at least the reasons presented above regarding claim 14, plus the things recited in claim 16 such as "the memory units are arranged in rows and columns, wherein the memory units in the same row form a shift register". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 16. The Office Action states that the Examiner takes Official Notice that it is well known in the art to arrange memory units in rows and columns, wherein the memory units in the same row form a shift register. Applicant respectfully traverses the taking of Official Notice and, pursuant to M.P.E.P. § 2144.03, Applicant requests documents or an affidavit to support the rejection of claim 16. In the absence of documents or an affidavit to support the rejection of claim 16, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 16.

Dependent claim 17 depends from independent claim 14 and recites the things of claim 17. Thus, claim 17 is also patentable over Wood in view of Yamamoto and Fukuoka for at least the reasons presented above regarding claim 14, plus the things recited in claim 17. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 17.

Claim 15 was rejected under 35 USC § 103(a) as being unpatentable over Taya et al. (U.S. 5,778,214) and Yamamoto et al. (JP 06-120937) as applied to claim 10 above, and further in view of Jaquette (U.S. 5,737,371).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claim 15 depends from independent claim 10 and recites the things of claim 10. Applicant is unable to find in Taya, Yamamoto, and Jaquette, either individually or in the proposed combination, the things recited in claim 15 such as those discussed above regarding claim 10 plus the additional things recited in claim 15. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 15.

Claims 18-20 were rejected under 35 USC § 103(a) as being unpatentable over Moriwaki in view of Grondalski (U.S. 6,108,763) and Wood.

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Claim 18, recites among other things, "a select circuit connected to only a subset of the number of register cells through a number of select lines, the select circuit including an output node, wherein the subset of the number of register cells is less than the number of the register cells, and wherein the number of select lines is less than the number of the register cells".

Applicant is unable to find in Moriwaki, Grondalski, and Wood, either individually or in the proposed combination, "a select circuit connected to only a subset of the number of register cells through a number of select lines, the select circuit including an output node, wherein the subset of the number of register cells is less than the number of the register cells, and wherein the number of select lines is less than the number of the register cells". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 18.

Dependent claims 19 and 20 depend from independent claim 18 and recite the things of claim 18. Thus, claims 19 and 20 are also patentable over Moriwaki, Grondalski, and Wood, either individually or in the proposed combination, for at least the reasons presented above regarding claim 18, plus the things recited in claims 19 and 20. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 19 and 20.

Claim 21 was rejected under 35 USC § 103(a) as being unpatentable over Wood, Moriwaki, and Grondalski as applied to claim 19 above, and further in view of Barnsley et al. (U.S. 5,730,812).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claim 21 indirectly depends from claim 18 and recites the things of claim 18. Applicant is unable to find in Moriwaki, Grondalski, Wood, and Barnsley, either individually or in the proposed combination, the things recited in claim 18 such as those discussed above regarding claim 18. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 21.

Claim 22 was rejected under 35 USC § 103(a) as being unpatentable over Wood, Moriwaki, and Grondalski as applied to claim 19 above, and further in view of Frisch et al. (U.S. 4,707,834).

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claim 22 indirectly depends from claim 18 and recites the things of claim 18. Applicant is unable to find in Moriwaki, Grondalski, Wood, and Frisch, either individually or in the proposed combination, the things recited in claim 18 such as those discussed above regarding claim 18. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 22.

Claims 32 and 34 were rejected under 35 USC § 103(a) as being unpatentable over Wood as applied to claim 31 above, and further in view of Fukuoka.

Applicant respectfully traverses for the reasons presented in all previous amendment and responses and for additional reasons presented below.

Dependent claims 32 and 34 indirectly depend from claim 31 and recite the things of claim 31. Applicant is unable to find in Wood and Fukuoka, either individually or in the proposed combination, the things recited in claims 32 and 34 such as those discussed above regarding claim 31, plus the additional things recited in claims 32 and 34. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 32 and 34.

Claim 35 was rejected under 35 USC § 103(a) as being unpatentable over Wood as applied to claim 31 above, and further in view of Yamamoto.

As indicated in the previous amendment and response, Applicant does not admit that Wood and Yamamoto, either individually or in the proposed combination, are prior art with respect to claim 35. However, Applicant canceled claim 35 without disclaimer or prejudice.

SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/964,010

Filing Date: September 26, 2001

Title: METHOD AND APPARATUS FOR REALIGNING BITS ON A PARALLEL BUS

Assignee: Intel Corporation

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Dkt: 884.455US1 (INTEL)

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6969 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 30th day of January, 2006.

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Signature

